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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,395	12/12/2003	Hajime Washio	1035-484	9130

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EXAMINER

SHERMAN, STEPHEN G

ART UNIT

PAPER NUMBER

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/733,395

Applicant(s)

WASHIO ET AL.

Examiner

Stephen G. Sherman

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 8-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed the 30 January 2007.
Claims 1-17 are pending.

Response to Arguments

2. Applicant's arguments filed regarding claims 1-7 and 16-17 have been fully considered but they are not persuasive.

On page 4 of the applicant's remarks, under the heading Claims 1-2, the applicant argues that the rejection of claims 1-2 should be withdrawn because the alleged admitted prior art (APA) is not prior art. The examiner respectfully disagrees. First of all, the applicant has provided no explanation of why the section of the specification is not prior art, but rather just states that it is not prior art to the instant specification. The examiner points out that although Figures 11-12 were not shown as prior art, the text of the specification states that they are. First of all, page 5, lines 10-13 state that "as a **typical** arrangement for this structure, one of the plurality of driving circuits are supplied with two-systems clock signal, and the remaining driving circuits are supplied with one system clock signal." Then, page 7, lines 17-20 state that "**In recent years, the described display device is often used as a display section of a mobile device, and therefore, the source clock tends to be reduced for realizing low power consumption.**" These two statements alone show that these device described in

this section of the specification is prior art, however, even more so, when the specification starts into the summary of the invention of line 11 of page 8, it states: "The present invention is made in view of the foregoing conventional problems,..." This means that what was described before that point on page 8 was PRIOR ART. The applicant has not provided any evidence or reasons in their argument as to why this section of the specification is not prior art, and based on what the specification says, as stated above, this section IS PRIOR ART. Therefore the rejection under 35 U.S.C. § 103(a) is maintained.

3. Applicant's arguments, see page 4, last paragraph to page 5, fifth paragraph of the remarks, filed 30 January 2007, with respect to claims 8-15 have been fully considered and are persuasive. The 35 U.S.C. § 103(a) rejections of claims 8-15 have been withdrawn.

Drawings

4. Figures 11-12 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-5 and 7-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA (Figures 10-12 and page 2, line 1 to page 8, lines 8.) in view of Kazunari (JP 11-031747).

Regarding claim 1, APA discloses a display device (Figure 10), comprising:

a scanning signal line driving circuit for driving scanning signal lines (Figure 10 shows gate driver GD which drives the gate lines GL(1)-GL(n).); and

a data signal line driving circuit for driving data signal lines intersecting the scanning signal lines (Figure 10 shows signal driver SD which drives the signal lines SL(1)-SL(n).),

at least one of a scanning signal line driving circuit and a data signal line driving circuit being supplied with at least first and second signals (Figure 11 and page 6, lines 4-18 explain that signals ck1 and ck2 are both supplied to the first data line driver circuit SD1.),

the first signal being supplied in parallel to other circuit than the driving circuit supplied with the first and second signals (Figure 11 shows that the signal ck1 is supplied also to the second signal driver SD2.), the other circuit being one of the scanning signal line driving circuit, the data signal line driving circuit, and a pre-charging circuit for carrying out pre-charging of the data signal lines (Figure 11 shows that the other circuit is a data driver SD2.),

APA fails to teach the display device further comprising wiring load adjustment section for equalizing wiring load of the second signal which is supplied to the driving circuit, and wiring load of the first signal which is supplied in parallel to the driving circuit and the other circuit.

Kazunari discloses of a display device comprising a wiring load adjustment section for equalizing the wiring load of two signals in which the wirings are of different length (Figure 4 and paragraph [0030] explain that wiring 316 has a partial wiring

connected to it, which has a capacitance of 316-A, allowing for the load capacitances of the wirings to be equal.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the teachings of Kazunari with the teachings of APA in order to reduce a difference in delay of the clocks.

Regarding claim 2, this claim is rejected under the same rationale as claim 1.

Regarding claim 3, please refer to the rejection of claim 1.

Regarding claim 4, APA and Kazunari disclose the display device as set forth in claim 2.

APA also discloses wherein the first signal is supplied to the driving circuit and the other circuit from a common input terminal and through a common signal line (Figure 11 shows that the signal ck1 is supplied to the two driving circuits SD1 and SD2 from a common input ck1 and is supplied to both circuits using the same signal line.).

Regarding claim 5, APA and Kazunari disclose the display device as set forth in claim 2.

APA also discloses wherein the first and second signals are clock signals of plural systems, respectively (Figure 11 shows that the signals ck1 and ck2 are clock signals.).

Regarding claim 7, APA and Kazunari disclose the display device as set forth in claim 2.

Kazunari also discloses wherein the wiring load adjustment section adjusts time constants of the respective wirings of the first and second signals (Figure 4 and paragraph [0030]. The examiner interprets that since the partial wiring is added in order to equalize a delay of the different clock signals, then the time constants are being adjusted.).

Regarding claim 16, APA and Kazunari disclose the display device as set forth in claim 2.

APA and Kazunari fail to teach wherein the other circuit is a pre-charging circuit for carrying out pre-charging of the data signal lines, however, it is well known that liquid crystal device can contain a pre-charging circuit for pre-charging the data signal lines.

Regarding claim 17, APA and Kazunari disclose the display device as set forth in claim 2.

APA and Kazunari fail to teach wherein the wiring load adjustment section is provided in the scanning signal line driving circuit, however, to place the wiring load adjustment section in a specific location of the circuit would have been a matter of design choice.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA (Figures 10-12 and page 2, line 1 to page 8, lines 8.) in view of Kazunari (JP 11-031747) and further in view of Kim (US 5,808,596).

Regarding claim 6, APA and Kazunari disclose the display device as set forth in claim 2.

APA and Kazunari fail to teach wherein the signals are digital image signals constituted of a plurality of bits, and are divided into at least two bit groups.

Kim discloses wherein signals are digital image signals constituted of a plurality of bits, and are divided into at least two bit groups (Figure 2 and column 3, lines 40-57 explain that the signals (b) and (c) are pixel data, i.e. image signals, where it is well known that pixel data can be in digital form constituted of a plurality of bits being divided into at least two bit groups.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the idea of compensating for delay of image signals as taught by Kim with the display device taught by the combination of APA and Kazunari in order to create a high resolution liquid crystal display which does not require excessive increases in clock frequency in order to increase resolution.

Allowable Subject Matter

9. Claims 8-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, the main reason for indicating allowable subject matter is that the closest prior references (APA, Kazunari and Kim) fail to teach that the wiring load adjustment section uses the liquid crystal layer as a dielectric substance, and is constituted of dummy wiring connected to the wiring of the second signal which is supplied to the driving circuit and a liquid crystal layer on the dummy wiring, and the counter electrode.

Regarding claim 12, the main reason for indicating allowable subject matter is that the closest prior references (APA, Kazunari and Kim) fail to teach that the wiring load adjustment section uses the interlayer insulation film as a dielectric substance, and is constituted of dummy wiring connected to the wiring of the second signal supplied to the driving circuit, the interlayer insulation film, and the conductive film.

Regarding claim 14, the main reason for indicating allowable subject matter is that the closest prior references (APA, Kazunari and Kim) fail to teach that the wiring load adjustment section uses layers for constituting a gate insulation film of a thin film transistor as a dielectric substance, and is constituted of dummy wiring connected to the wiring of the second signal supplied to the driving circuit, and layers for constituting a gate insulation film and a semiconductor layer of a thin film transistor stacked on the dummy wiring.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

26 February 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
